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L1: Entry 4 of 4

File: USPT

Oct 16, 1984

US-PAT-NO: [4477516](#)

DOCUMENT-IDENTIFIER: US 4477516 A

TITLE: Non-woven fabric of hot-melt adhesive composite fibers

DATE-ISSUED: October 16, 1984

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sugihara, Taizo	Moriyamashi			JPX
Furukawa, Yasuhiko	Kusatsushi			JPX
Tomioaka, Susumu	Shigaken			JPX

US-CL-CURRENT: [442/361](#); [428/373](#), [428/374](#), [442/364](#)

ABSTRACT:

A non-woven fabric of hot-melt-adhesive composite fibers having a specified small weight per unit area and soft feeling is provided which fibers are obtained by forming a fiber aggregate consisting of hot-melt-adhesive composite fibers of a specified fineness, alone, composed of as a first component, a polyethylene resin composition (C) consisting of (A) a straight chain, low density polyethylene and (B) another kind of polyethylene, in a specified proportion, and having a specified density and a specified ratio of its melt indexes after and before spinning, and as a second component, a fiber-formable polymer having a m.p. higher than those of either of the polyethylenes constituting the first component, the first component constituting at least a part of the fiber surface of the composite fibers continuously in the longitudinal direction thereof, or a fiber aggregate of a specified average fineness which is mixed fibers of the composite fibers with other fibers of a specified fineness; and subjecting either one of the fiber aggregates to heat treatment at a specified temperature.

10 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Image
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☐ 2. Document ID: US 5372885 A Relevance Rank: 52

L1: Entry 3 of 4

File: USPT

Dec 13, 1994

US-PAT-NO: 5372885
DOCUMENT-IDENTIFIER: US 5372885 A

TITLE: Method for making bicomponent fibers

DATE-ISSUED: December 13, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabor; Ricky L.	Lake Jackson	TX		
Jezic; Zdravko	Lake Jackson	TX		
Lancaster; Gerald M.	Freeport	TX		
Young; Gene P.	Lake Jackson	TX		
Bieser; John O.	Lake Jackson	TX		
Finlayson; Malcolm F.	Houston	TX		

US-CL-CURRENT: 428/373; 264/172.12, 264/172.14, 264/172.15, 264/DIG.26, 428/374, 428/375, 428/395

ABSTRACT:

A method is disclosed for making thermoplastic bicomponent fibers by contacting under thermally bonding conditions (a) a first component being at least one high performance thermoplastic polymer, such as PET, PBT, nylon or the like, and (b) a second component which is olefinic and which forms at least a portion of the fiber's surface characterized by (b) including at least one grafted olefinic polymer, preferably at least one grafted linear ethylene polymer, having pendant succinic acid or succinic anhydride groups; whereby the fiber is dyeable. The bicomponent fibers made by this process can be in a variety of shapes (e.g., round, oval, trilobal, flat, or hollow) and configurations (e.g., symmetrical sheath/core or side-by-side or asymmetrical crescent/moon). The succinic acid or succinic anhydride groups are provided by grafting, respectively, maleic acid or maleic anhydride onto the linear ethylene polymers especially by a process wherein the grafting is done in a twin-screw, co-rotating extruder with the maleic acid or maleic anhydride being injected into a pressured zone of the extruder. The acid containing grafted linear ethylene polymer or polymer blends are dyeable in contradistinction to ungrafted linear ethylene polymers.

6 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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☐ 3. Document ID: US 5503907 A Relevance Rank: 52

L1: Entry 2 of 4

File: USPT

Apr 2, 1996

US-PAT-NO: 5503907
DOCUMENT-IDENTIFIER: US 5503907 A

TITLE: Barrier fabrics which incorporate multicomponent fiber support webs

DATE-ISSUED: April 2, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gessner, Scott L.	Encinitas	CA		
Gillespie, Jay D.	Simpsonville	SC		

US-CL-CURRENT: 428/198, 428/212, 428/903, 428/908.8, 442/346, 442/364

ABSTRACT:

A composite nonwoven fabric having at least one hydrophobic microporous layer and at least one other layer formed of multicomponent fibers. The multicomponent fibers comprise a lower melting thermoplastic resin component and one or more higher melting thermoplastic resin components, wherein a substantial proportion of the surfaces of the multicomponent fibers consists of the lower melting thermoplastic resin component. The microporous layer is composed in substantial part of at least one thermoplastic resin which is thermally miscible with and adherent, upon thermal activation, to the lower melting thermoplastic resin component of the multicomponent fibers. The layers are laminated together such that the lower melting thermoplastic resin component of the layer of multicomponent fibers is thermally bonded to the thermally miscible thermoplastic resin component of the hydrophobic microporous layer to form a unitary, cohesive bond combining the layers, and wherein at least one of the higher melting thermoplastic resin components retains a fiber-like integrity in the multicomponent fibers to impart strength to the laminated nonwoven fabric.

18 Claims, 4 Drawing figures Exemplary Claim Number: 1
Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference
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☐ 4. Document ID: US 6187699 B1 Relevance Rank: 52

L1: Entry 1 of 4

File: USPT

Feb 13, 2001

TITLE: Laminated nonwoven fabric and method of manufacturing same

DATE-ISSUED: February 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Terakawa, Taiju	Yasu-gun			JPX
Horiuchi, Shingo	Moriyama			JPX
Ogata, Satoshi	Amagasaki			JPX

US-CL-CURRENT: 442/382, 442/361, 442/364

ABSTRACT:

A laminated nonwoven fabric having a good texture, providing no rough touch, and having a high strength and a large delamination strength are provided.

A nonwoven fabric of a multi-layer structure comprises (a) a composite spun bonded nonwoven fabric composed of a low melting point resin component and a high melting point resin component and (b) a composite melt blown extra-fine-fiber nonwoven fabric having a fiber diameter of 10 .mu.m or less and being composed of a low melting point resin and a high melting point resin; both of the nonwoven fabrics are laminated, and the fibers in each of the nonwoven fabrics and both of the nonwoven fabrics are thermally fused.

A method of manufacturing a nonwoven fabric having a multi-layer structure comprises laminating each of the nonwoven fabrics in a multi-layer structure and heating the laminate at a temperature higher than the thermal fusion temperature to cause thermal fusion of the both layers.

14 Claims, 0 Drawing figures Exemplary Claim Number: 1

Full Title Citation Front Review Classification Date Reference

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